

**REMARKS**

This Amendment, submitted in response to the non-final Office Action dated May 4, 2005, is believed to be fully responsive to the points of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-5, 7-24 and 26-32 are pending. Claims 1, 5, 7, 11, 12, 17, 23, 27 and 32 have been amended. No new matter has been added by the amendments.

Claims 1-3, 5, 11, 23, 24, 26 and 29-31 have been rejected under 35 USC 103(a) over US Patent No. 6,231,306 (Khalid), in view of Orme ("Flight Assessment of the Onboard Propulsion System Model for the Performance Seeking Control Algorithm on an F-15 Aircraft, NASA July 1995). Claim 4 has been rejected under 35 USC 103(a) over Khalid, in view of Orme, in further view of US Patent No. 5,448,881 (Patterson). Claims 6-10, 12-22, 25, 27, 28 and 32 were found to be allowable if rewritten in independent form to include the limitations of the base claim and any intervening claims. Applicants respectfully submit the following remarks in support of the patentability of the claims.

**1. Claims 1-4:**

Claim 1 has been amended to clarify the preprocessing step. Amended Claim 1 is directed to a method for detecting precursors to compressor stall/surge. The method includes monitoring at least one compressor parameter to obtain raw data representative of at least one compressor parameter and pre-processing the raw data using a frequency demodulator to produce pre-processed data comprising at least one demodulated signal having an amplitude corresponding to the instantaneous frequency of a locally dominant component of an input signal. The method further includes post-processing the pre-processed data using a Kalman filter to obtain stall precursors.

Applicants respectfully submit that none of the cited references (Khalid, Orme or Patterson) teaches or suggests pre-processing the raw data using a frequency demodulator to produce pre-processed data comprising at least one demodulated signal having an amplitude corresponding to the instantaneous frequency of a locally dominant component of an input signal, as recited by amended Claim 1. Accordingly, Applicants respectfully submit that Claim 1 is patentably distinguishable over the cited art, either alone or in combination, for at least this reason. Further, as claims 2-4 depend from Claim 1, claims

2-4 are also patentably distinguishable over the cited art for at least this reason. Accordingly, Applicants respectfully request that the rejections of Claims 1-4 under 35 USC 103(a) be withdrawn.

## **2. Claims 5 and 7-10**

The Examiner indicated that original Claims 6-10 contained allowable subject matter. Claim 5 has been amended to include the additional recitation of original claim 6. Claims 7-10 depend from Claim 5. Accordingly, Applicants respectfully submit that Claims 5 and 7-10 are in condition for allowance.

## **3. Claims 11-22:**

The Examiner indicated that original Claims 12-22 contained allowable subject matter. Claim 11 has been amended to include an additional recitation from original claim 12. As amended, Claim 11 is directed to a method for detecting precursors to compressor stall/surge. The method includes monitoring at least one compressor parameter to obtain raw data representative of at least one compressor parameter and pre-processing the raw data using a frequency demodulator to produce pre-processed data. The preprocessing is performed at least partially in the analog domain. The pre-processing includes producing a demodulated signal having an amplitude corresponding to the instantaneous frequency of a locally dominant component of an input signal. The method further includes post-processing the pre-processed data using a Kalman filter to obtain stall precursors. Claims 12-22 depend from Claim 11.

Applicants respectfully submit that none of the cited references (Khalid, Orme or Patterson) teaches or suggests pre-processing raw data using a frequency demodulator to produce pre-processed data, the preprocessing being performed at least partially in the analog domain, and the pre-processing comprising producing a demodulated signal having an amplitude corresponding to the instantaneous frequency of a locally dominant component of an input signal, as recited by amended Claim 11. For at least these reasons, Applicants respectfully submit that Claim 11 is patentably distinguishable over the cited art, either alone or in combination. Further, as Claims 12-22 depend from Claim 11, these claims are also patentably distinguishable over the cited art for at least these reasons. Accordingly, Applicants respectfully request that the rejection of Claim 11

under 35 USC 103(a) be withdrawn and further submit that Claims 11-22 are in condition for allowance.

**4. Claims 23, 24 and 26-32:**

The Examiner indicated that original claims 25, 27, 28 and 32 contained allowable subject matter. Claim 23 has been amended to include the additional recitation of original Claim 25. Claims 24, 26 and 29-31 depend from Claim 23. Accordingly, Applicants respectfully submit that Claims 23, 24, 26 and 29-31 are in condition for allowance.

Claim 27 has been rewritten in independent form. Claim 28 depends from Claim 27. Accordingly, Applicants respectfully submit that Claims 27 and 28 are in condition for allowance.

Claim 32 has been rewritten in independent form. Accordingly, Applicants respectfully submit that Claim 32 is in condition for allowance.

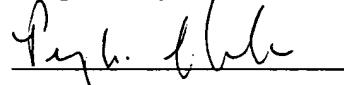
**CONCLUSION**

In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

**Please charge all applicable fees associated with the submittal of this Amendment and any other fees applicable to this application to the Assignee's Deposit Account No. 07-0868.**

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,



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